



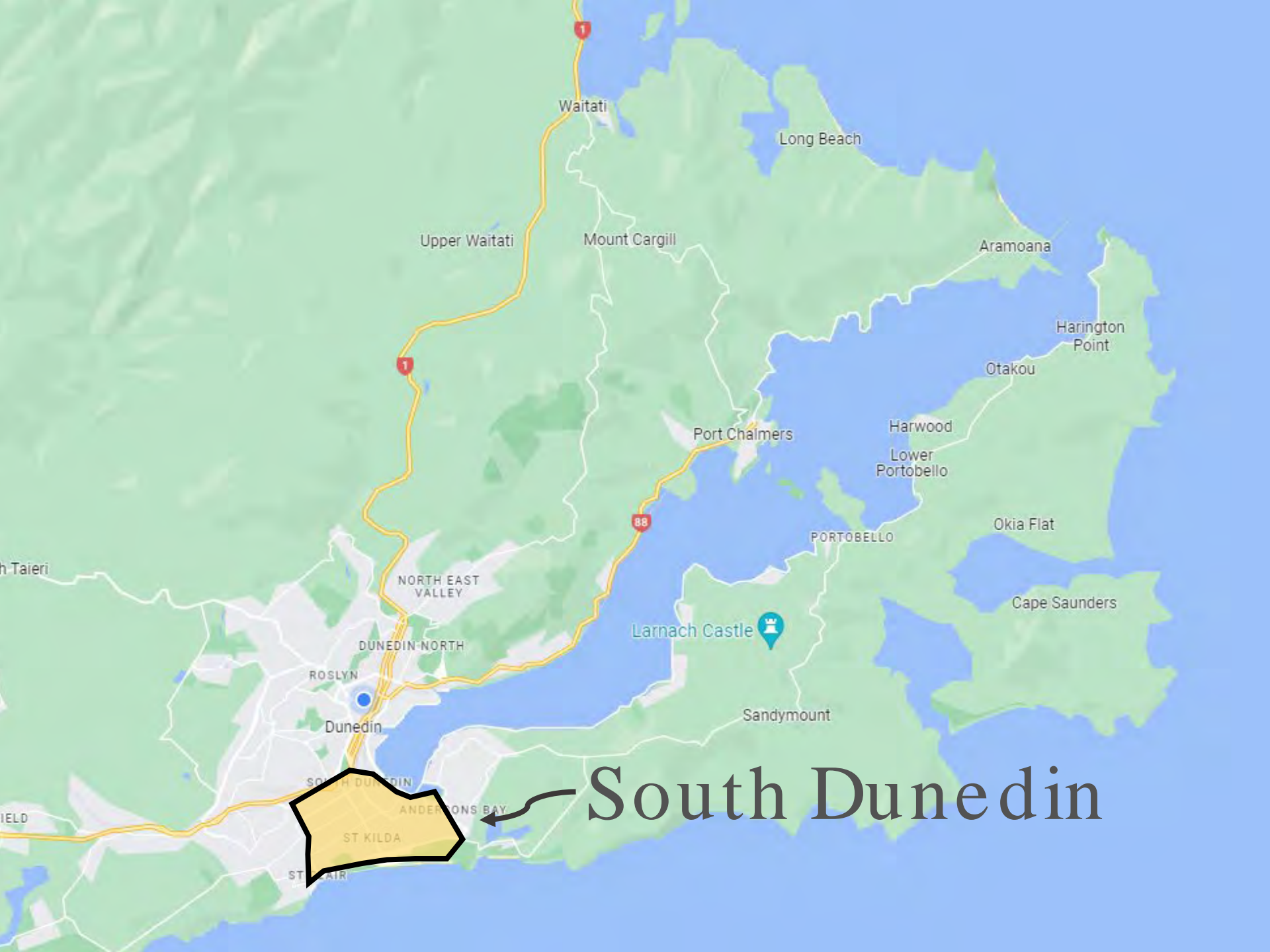
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South Dunedin Future

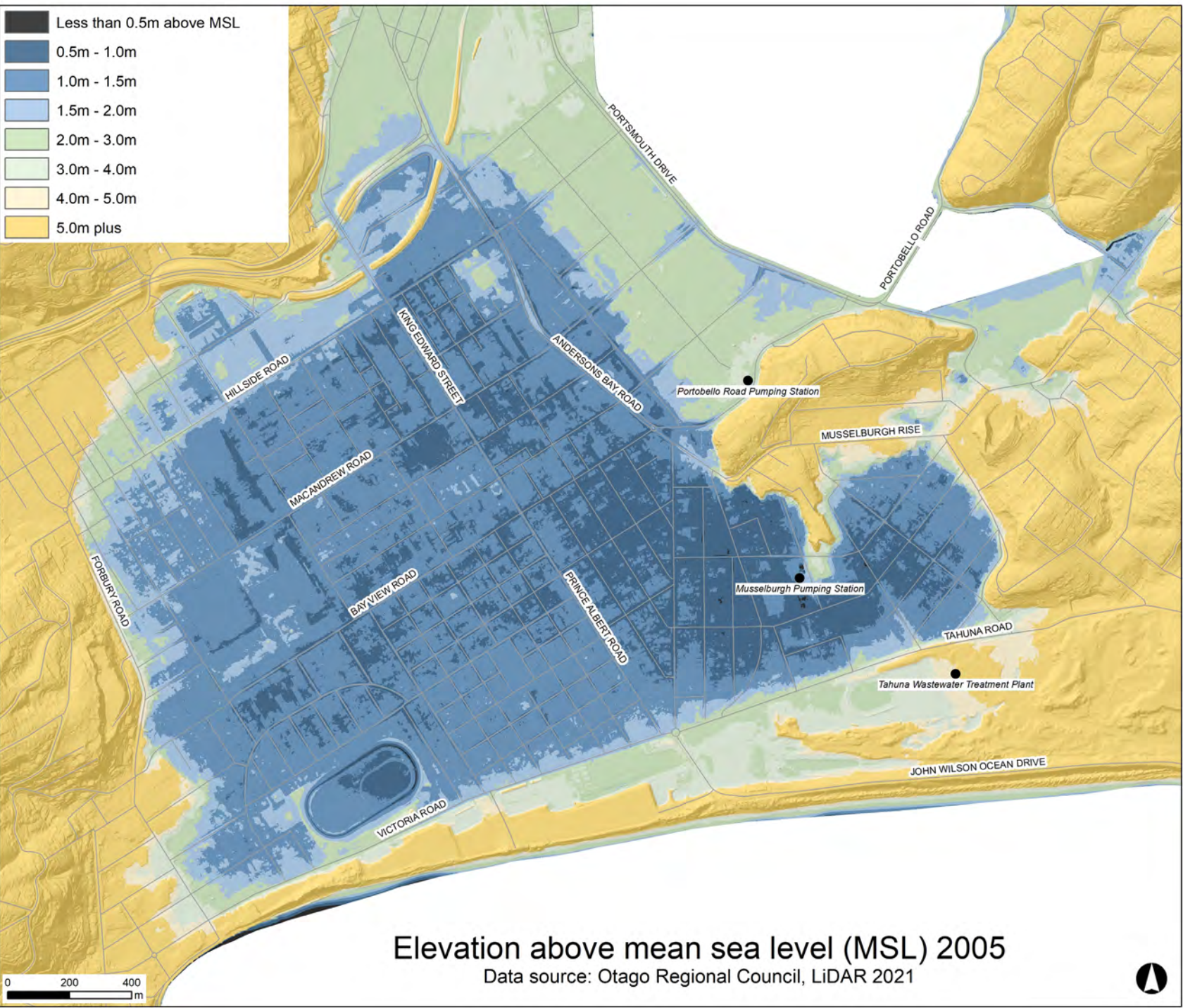


2010 The Hotspot



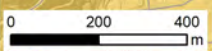


South Dunedin



Elevation above mean sea level (MSL) 2005

Data source: Otago Regional Council, LiDAR 2021



2015 The Flood



Otago Daily Times

Dunedin 21 | 11 Wednesday, 2 November 2022 Send us news & photos

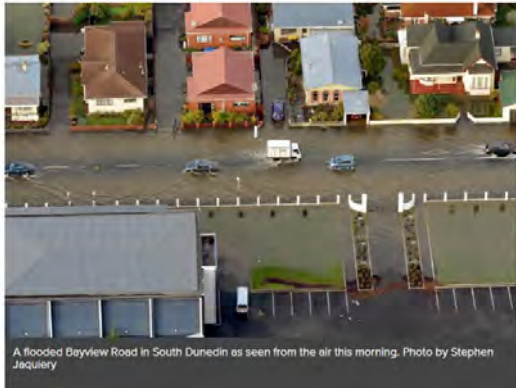
News Sport Life & Style Entertainment Business Regions Fe

Friday, 11 September 2015

'One in 100-year-flood'

f 35 t o v

News > Dunedin



Otago Daily Times

News Sport Life & Style Entertainment Business Regions Fe

Monday, 15 June 2015

City to face 'end game' in the lowlands

By Chris Morris

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News > Dunedin

South Dunedin is a suburb under siege by Mother Nature - battered by ocean waves, floods, a rising water table and with the dark clouds of climate change predictions building on the horizon. So is it time to head for the hills? Chris Morris reports.

Dunedin Mayor Dave Cull believes South Dunedin is at a crossroads and it is time to start considering the "end game".

That end game could come in many forms, but the options are dramatic and the implications far-reaching, not just for South Dunedin, but the city as a whole.

Just what do you do if the lives of 10,000 people need to be uprooted?

"I think it's one of the biggest issues confronting the city over the next couple of decades," Mr Cull told the *Otago Daily Times*.

"We need to confront it."



Dave Cull.

Thursday, 21 April 2016

Mud-tank contract 'dual failure' - Cull

Tuesday, 24 May 2016

Flood's 'true' cost \$138 million

Tuesday, 24 May 2016

Flood report findings no surprise to residents (+ video)

Thursday, 7 July 2016

Flood review clears DCC staff findings

Thursday, 14 July 2016

Report skims surface of South Dunedin flood saga

Wednesday, 4 March 2020

Five years on, South Dunedin still waiting for a fix



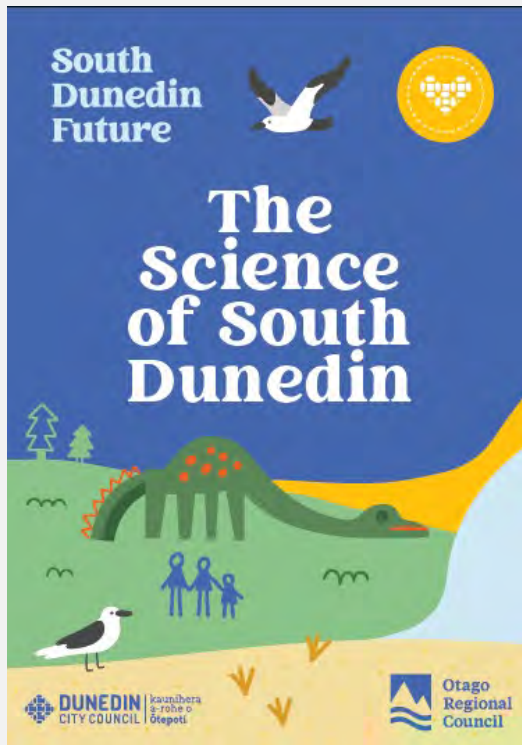
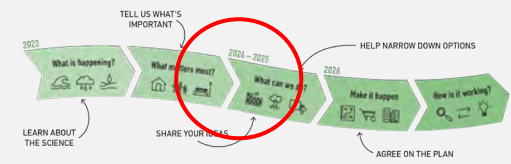
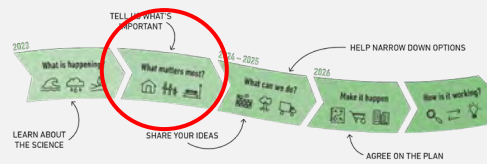
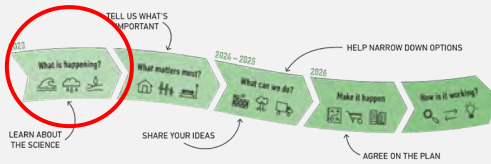
2018 The Hui



2020 The Reset



2023 The Programme





7. Floodable Infrastructure



- The map shows the location of the proposed infrastructure project.
- The map highlights the areas that will be affected by the project.
- The map shows the location of the project relative to other infrastructure.
- The map shows the location of the project relative to the coastline.
- The map shows the location of the project relative to the surrounding area.



Get in touch

Head to our website to learn more. Sign up for regular updates or drop us a line. dunedin.govt.nz/southdunedin southdunedin@dcc.govt.nz 03 477 4000

South Dunedin Future is a joint programme between Dunedin City Council and Otago Regional Council to help the South Dunedin community adapt and prepare for a changing climate, and future flooding problems.

There will be a wide range of opportunities to get involved over the next two years. We encourage you to get involved, hear what others think and play an active role.



What happens next?

The South Dunedin Future programme has multiple stages. We are up to "What can we do?" and have a long-list of 16 approaches to talk to mana whenua, the community, and stakeholders about.



South Dunedin Future



What can we do?

Big ideas for a better future!

We are pleased to present 16 ideas that would help South Dunedin adapt to flooding and future climate change.

Over the past few years, we have talked with thousands of locals, as well as mana whenua and community leaders, about the flood-prone areas that are most at risk. We've also done a lot of work with experts, engineering people and water agencies to figure out what we can do to make things better. We've also talked with local residents and we've got feedback on what we can do to make things better. We've also talked with local residents and we've got feedback on what we can do to make things better.

"Always plan ahead. It wasn't raining when Noah built the ark."

The first time we heard about the flood-prone areas, it was a surprise. We didn't know there were so many areas that were at risk. We've since done a lot of work to figure out what we can do to make things better. We've also talked with local residents and we've got feedback on what we can do to make things better.

About the approaches

We've grouped all the approaches into 16 categories. Each category has a set of approaches that we think will be most helpful. We've also talked with local residents and we've got feedback on what we can do to make things better.

Read on to get informed and get involved!

There will be many ways for you to get involved. We've got a lot of ideas for how you can help. We've also talked with local residents and we've got feedback on what we can do to make things better.

A is for Avoid

It is important to avoid building in high-risk areas or along the coast. This is especially true for areas that are at risk of flooding. We've got a lot of ideas for how you can help.

R is for Retreat

Some things that we can do to help are to move buildings away from the coast. We've got a lot of ideas for how you can help.

A is for Accommodate

When the water comes, you can't just ignore it. You need to have a plan. We've got a lot of ideas for how you can help.

F is for Protect

There are many ways to protect our communities. We've got a lot of ideas for how you can help.



1 Ground reinforcements

Many different methods can be used to reinforce the ground, which can help to make soil more stable and reduce the chance of liquefaction.



2 Groundwater / Lowering

When the sea level rises, groundwater also rises and the risk of flooding increases. Additional drainage and dewatering wells are ways to lower groundwater, protecting underground and low-lying infrastructure.



3 Land Grading

The method of 'land grading' or 'land elevation' involves physically raising the ground level above the flood plain, to reduce the risk of buildings and infrastructure being flooded.



10 Behavioural / Societal Changes

We can't build our way out of everything. Small changes in behaviour can build community resilience, lessen the impacts of climate events and help speed up recovery. Financial rewards or penalties, education and awareness initiatives and mental health assistance can help to create collective change over time.

The 16 Approaches



The list was made by merging around 280 ideas crowdsourced from the community and stakeholders with the best approaches from around the world. Our experts looked for examples from other places with similarities to South Dunedin.

At this early stage, none of the methods have been priced because the costs will vary depending on the extent, size and timeframes for which they are used. That more detailed thinking will come in future stages of this project as we go from a long list to a short list.

For more information about all the options look on our website at council.govt.nz/southdunedinapproaches or scan this QR code above on your phone.



4 Water Flow Improvements

Water can be dispersed more effectively by changing or improving drainage systems, such as through paving in larger pumps or pipes, diverting flows, or building engineering channels or canals.



5 Remove Wastewater Network Overflows

Wastewater spilling out of the sewer network when it's at full capacity creates health risks. We can remove wastewater network overflows by fixing cracked pipes and manholes, removing accidental connections to the sewerwater system and adding capacity.



6 Dedicated Water Storage

Dedicated water storage areas include basins, ponds, and wetlands on the ground surface or underground, that fill during storms and are slowly released.



11 Readiness and Response

Community readiness (pre-event) and response (post-event) activities can involve early warnings of events, public education campaigns, emergency response plans and providing support services before, during and after a flood event to reduce impacts on communities.



13 Reactive Retreat

A decision could be made to withdraw from or abandon homes or infrastructure after damage has already occurred, due to a major event such as a storm, flooding, tsunami, earthquake or rapid erosion.



15 More Restrictive Standards

Vulnerability to hazards can be reduced by tightening development controls. This could be done through more regional and district plan rules or building standards, such as specifying minimum floor heights, requiring buildings to be setback from the coast or waterways, or restricting how much land a building can cover.



7 Floodable Infrastructure

Spaces like parks, reserves, carparks or malls can be transformed into intentional temporary flood storage zones or overflow flow paths, holding water during weather events and protecting other areas from flooding.



8 Increase Permeability

Making the ground more absorbent and 'sponge-like' through methods such as green roofs, reducing paved or concrete areas, introducing rain gardens, bioswales or planting more trees can help manage excess rainwater.



9 Coastal Protection

Coastlines can be protected from erosion and/or flooding through 'hard engineering' options such as sea walls, dykes, groynes and breakwaters and 'soft engineering' options such as salt marsh, coastal wetlands, sand placement and dune restoration.



12 Property Level Interventions

Individual properties can be modified to make them more resilient against flooding. Measures can include raising homes, waterproofing first floors, or flood barriers.



14 Managed Relocation

A decision could be made to proactively move homes or infrastructure before significant damage occurs from natural or climate hazards, through means such as voluntary buyouts or removing critical infrastructure from vulnerable locations.



16 No New Development

Changes to planning rules can prevent additional development of land in high-risk areas, reducing property exposure to hazards over time, and driving retreat in the longer term through preventing rebuilding or building in areas prone to flooding or coastal inundation.

PROTECT

PROTECT

PROTECT

ACCOMMODATE

RETREAT

AVOID

Get in touch

Head to our website to learn more and subscribe for regular updates or drop us a line.

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03 477 4000

South Dunedin Future



**SOUTH
DUNEDIN
FUTURE**

Let's make a plan!

 **DUNEDIN** | kaunihera
CITY COUNCIL | a-rohe o Ōtepoti

 **Otago
Regional
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